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putation of its path during the present apparition, taking into account, of course, the perturbing influence of the planets. So well was his work done, and so accurate the theory upon which it was based, that the comet was found by HUSSEY within 1° of Right Ascension, and 4" of Declination, of the predicted place.

The following tabulation gives the comets of the year in the order of their perihelion passage, the discoverer, and the date of discovery:—

Comet.	Discoverer, and Date of Discovery.	Remarks.
I	PERRINE, . Mar. 20	Elliptic; with period of more than 300 years.
II	PERRINE, . Jan. 2	WINNECKE's periodic comet; period, 5.8 years.
III	GRIGG, . June 7	ENCKE's periodic comet; period, 3.3 yrs. Independently discovered, June 11th, by TEBBUTT, from whom the first announcement of discovery was received.
IV	HUSSEY, . June 16	WOLF's periodic comet; period, 6.8 yrs.
V	GIACOBINI, June 19	
VI	PERRINE, . June 14	
VII	CODDINGTON, June 11	By photography. Independently discovered visually by W. PAULY, at Bucharest, on June 14th.
VIII	CHASE, . Nov. 14	On meteor plates; announcement made Nov. 24th.
IX	PERRINE, . Sep. 13	Independently discovered by M. P. CHOFARDET, at Besançon, on Sept. 14th.
X	BROOKS, . Oct. 20	

January 9, 1899.

R. G. AITKEN.

#### THE PROBABLE STATE OF THE SKY ALONG THE PATH OF TOTAL ECLIPSE OF THE SUN, MAY 28, 1900.

The observations taken under the direction of the United States Weather Bureau in 1897, to determine the meteorological conditions likely to prevail along the path of the total eclipse of the Sun, which will occur in the Southern States on May 28, 1900,\* were repeated this year on precisely the same plan. In general, the work was done by the same observers, and eighty-seven stations reported this year as against sixty-six last year.

The results, which are summarized by Professor BIGELOW in the *Monthly Weather Review* for September, 1898, lead to the

\* See abstract of Professor BIGELOW's Report in No. 60 of these *Publications*.

same conclusion reached last year, which is as follows: "The weather conditions in the interior of Georgia and Alabama were better than in Virginia, North Carolina, South Carolina, Mississippi, and Louisiana; and judging from this table [of results of the observations] it would be much safer for the eclipse expeditions to locate their stations in the northern portions of Georgia and Alabama, upon the southern end of the Appalachian Mountains, where the track crosses the elevated areas, than nearer the coastline in either direction, northeastward toward the Atlantic Coast, or southwestward toward the Gulf Coast; on the Coast itself the weather is more unfavorable than in any other portion of the track." These observations will be repeated in 1899.

R. G. A.

#### ON THE ORIGIN OF THE PRINCIPAL LINE IN THE AURORA SPECTRUM.

It is possible that some recent observations may furnish an explanation of the origin of the principal bright line in the spectrum of the aurora.

When the new element, krypton, was discovered in our atmosphere by RAMSAY and TRAVERS, they announced that one of the principal lines in its spectrum has the wave-length 5566 tenth-meters. Professor RUNGE has made an accurate determination of the wave-length of this line, and finds its value to be

$$\lambda 5570.4.$$

The observations of the aurora line, made under the best conditions, gave the following results for its wave-length:—

ÅNGSTRÖM . . . .	5568
VOGEL . . . .	5572
VIJKANDER . . . .	5573
LEMSTRÖM . . . .	5570
HUGGINS . . . .	5572
COPELAND . . . .	5573
GILLENSKIÖLD . . .	5569
CAMPBELL . . . .	<u>5571.6</u>
Mean . . . .	5571.1

It will be seen that the krypton and aurora lines occupy nearly the same position. Inasmuch as the aurora line was quite faint when some of the measures were made, it is possible